

Revolutionary Research . . . Relevant Results

08 August 2012

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89 Years of Naval Research

Naval S&T Milestones

ACCOMPLISHMENTS ACROSS ALL DOMAINS





MAGNETIC DRUM RADAR



FIRST UNMANNED



FIRST FAR-ULTRAVIOLET



RINCIPLES OF MODERN





SYNTHETIC

1940s



PROJECT WHIRLWIND



VERTICAL TAKE-OFF



IN NAVSTAR GPS













CONTRIBUTED TO



AEGIS COMBAT SYSTEM

HIGH-ENERGY

MAGNETS



HULL ANTI-FOULING

CLEMENTINE

SPACECRAFT



(LIVE-FIRE COMBAT SKILLS) RESEARCHERS FOR GRAPHENE



HIGH TEMPERATURE AND PREDICTION SYSTEM SUPERCONDUCTIVE DEGAUSSING



TACTICAL

MICROSATELLITE



HYPERSPECTRAL IMAGER







SHARP LARGE DISPLACEMENT UNMANNED



UNDERWATER VEHICLE







FIRST OPERATIONAL





WORLD-RECORD SETTING 33 MJ EMRG SHOT



QUIKCLOT®

COMBAT GAUZE

REMOTE ENVIRONMENT

ANTI-TORPEDO

TORPEDO





MULTISTATIC RADAR

TESTED AT NRL

1920s



GAMMA-RAY RADIOGRAPHY NUCLEAR SUBMARINE



FIRST U.S. RADAR 1930s









AND II

NAVSTAR GPS

OWENS VALLEY 40M

RADIO TELESCOPE

FORMING FOAMS (AFFF)





LITHIUM

BATTERIES

1980s



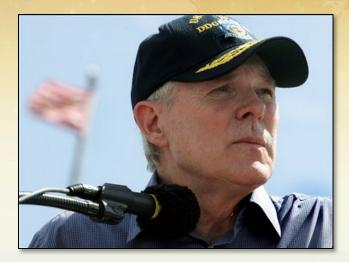


1990s

MONITORING UNITS 2000s



From the Top



Ray Mabus, Secretary of the Navy

"We will innovate to use <u>new</u> <u>technologies</u> and operating concepts to sharpen our warfighting advantage..."

"Small businesses in emerging industries ... have cutting-edge ideas that are strengthening our country and changing the world."



ADM Greenert, Chief of Naval Operations



Technology in Naval History

- The Department of the Navy has historically relied on technology for game-changing advantages:
 - Ship Design in War of 1812
 - Radar in WWII
 - Aircraft Carriers
 - Nuclear Submarines & Deterrence
 - Smart Weapons in Modern Combat
 - Autonomy & Information







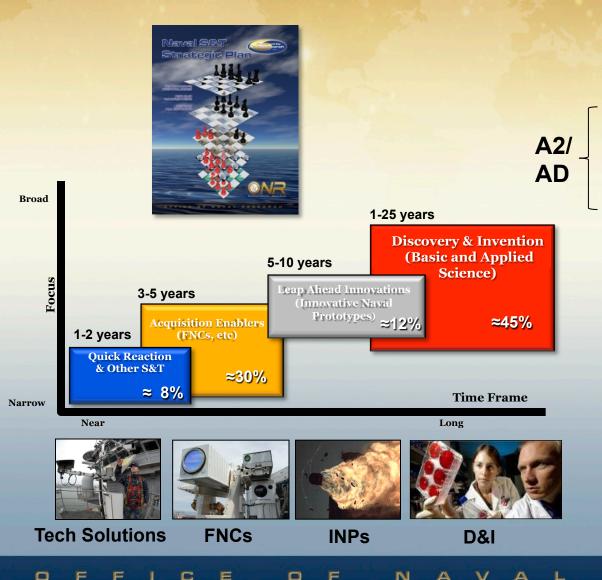








S&T Strategic Plan



S&T Plan Focus Areas:

- Autonomy & Unmanned Systems
- Assure Access to Maritime Battlespace
- Information Dominance
- Expeditionary & Irregular Warfare
- Power Projection & Integrated Defense
- Platform Design & Survivability
- Power & Energy
- Warfighter Performance
- Total Ownership Cost
- STEM



DON Small Business

- Awarded \$14.2 billion to small business as prime contractors, supporting over 200,000 jobs
- Increased awards to small business by over \$3.5 billion in the past six years, leads DoD
- Navy / U.S. Small Business Administration are promoting opportunities under SBIR.
 - "Green" topics increased from 9% in FY08 to 25% in FY11







Working together to provide affordable products and services to the warfighter



DON Small Business Innovation Research





Program Inception

1982



\$384M 282 Topics 5,286 Proposals

\$310M 215 Topics 2,620 Proposals

\$196M 221 Topics 3,088 Proposals

\$125M 126 Topics 1,311 Proposals

2003

2000

Reauthorization Increase from 2.5% to 3.2% SBIR and .3% to .45% for STTR from 2011 to 2012

2011

2010

2007





How We Execute



ONR choball

- UARCS/Academia
 - Industry

- 30 Countries
- All 50 States
- 983 Companies

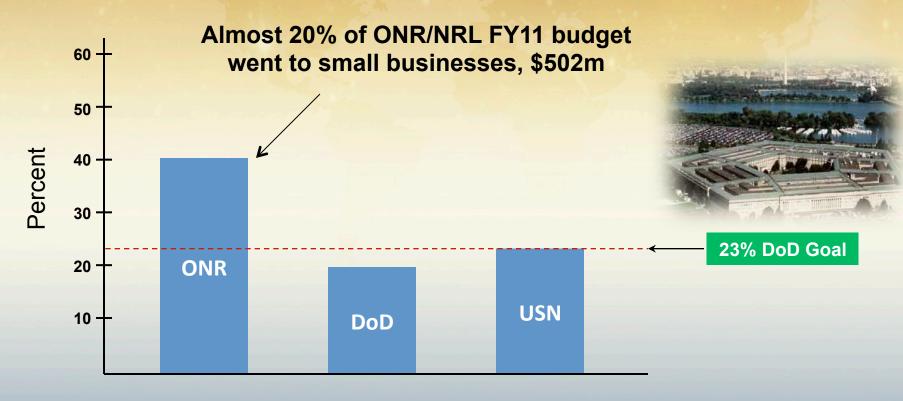
 744 small businesses*
- 412 Universities & Nonprofit Entities
 - 3,340 Principal Investigators
 - 3,000 Grad Students

Inc. Inc. Inc.

*Over ~\$75M in SBIR/STTR per year



ONR Small Business Utilization



FY11 Small Business Utilization*

Navy S&T Counts on Small Business

^{*} As Percent of Prime Contract Awards

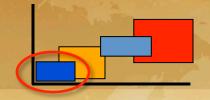


Accessing ONR

- TechSolutions: COTS solutions (1-2 years)
- Swampworks: Explores high-risk ideas (3 years)
- Future Naval Capabilities: component technology (3-5 years)
- SBIR/STTR: check topics at www.navysbir.com
- Innovative Naval Prototypes: many SBIR/STTRs
- Rapid Innovation Fund BAA (for businesses < 500)
- MANTECH: manufacturing technologies, see www.navymantech.com



Examples



TechSolutions: www.onr.navy.mil/techsolutions

- Solid State Lighting, Energy Focus
- Power Management Kit, Protonex
- SWOS Trainer, Aptima





SwampWorks:

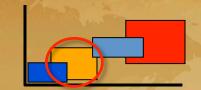
- Algorithms for USVs, Spatial Integrated Systems
- Water Barrier for port security, HALO Defense
- USV for EOD operations, Hydronalix







FNC Examples



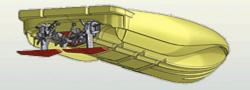
Advanced Shipboard Desalination, MECO



Neurotrauma Infrascanner, Infrascan



Ultra Deep-V Hull Boat Design, Navatek

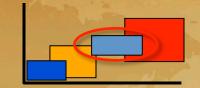


Archerfish, Applied Physical Sciences





INP Example SBIR in Railgun



This example was discussed at the event. Contact ONR Public Affairs for more information.

SBIR-Supported Research

- Over \$20m since FY04
- Multi-discipline
- Multi-industry

83 Contributing Projects

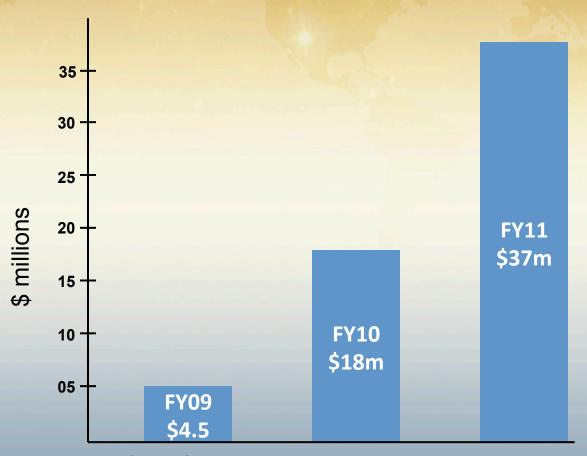
- 53 Phase I
- 27 Phase II
- 3 Phase III

46 SBIR/STTR Tech Providers

Traditional and non-traditional

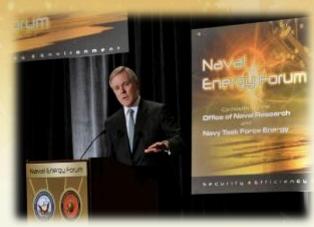


Green Technology SBIR/STTR Growth



SBIR/STTR Energy-related Topic Investment

*MOU between DON/SBA signed Oct 2010



ONR Naval Energy Forum October 2009

- Supporting SECNAV Energy Goals
- Promotes energy efficiency and renewable energy use
- Future growth opportunity!



S&T Opportunities

- Autonomy
- Power & Energy
- Information Dominance
- Directed Energy and Hypervelocity
- Warfighter Performance
- Total Ownership Cost

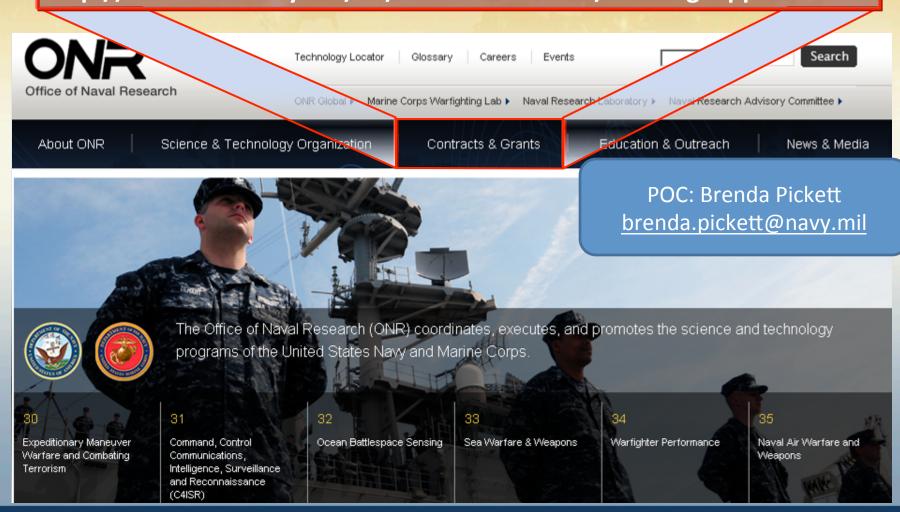
STEM





Where to Find Us

http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities



2012 ONR Naval S&T Partnership Conference

The 2012 S&T Partnership Conference will provide various avenues to access ONR leaders, program managers, and business operations staff. Don't miss this great opportunity!

Save the Date:

October 22-24, 2012 · Hyatt Regency Crystal City · Arlington, Va.



www.onr.navy.mil/events